WHAT IS CLAIMED IS:

1. A specified pattern detection apparatus comprising:

a first filter which detects a partial image included in a specified pattern in input image data;

a memory device which stores bi-level data on the existence of the partial image based on output signals of said first filter; and

a detector which detects the specified pattern from the bi-level data stored in said memory device.

2. The specified pattern detection apparatus according to claim 1, wherein said detector comprises a plurality of second filters and detects the specified pattern based on signals outputted by said second filters.

3. The specified pattern detection apparatus according to claim 2, wherein said second filters detect a pattern obtained by rotation of the specified pattern.

4. The specified pattern detection apparatus according to claim 2, wherein said second filters detect a plurality of types of the specified patterns.

5. The specified pattern detection apparatus according to claim 1, further comprising a binarizer which binarizes the input image data to output bi-level image data, wherein said first filter detects the partial image in the bi-level image data.

6. The specified pattern detection apparatus according to claim 1, further comprising a resolution converter which converts the bi-level data on the existence of the partial image to bi-level data of a lower resolution before storing the bi-level data on the existence of the partial image to said memory device.

7. The specified pattern detection apparatus according to claim 1, further comprising a map generator which converts the bi-level data to multi-level data according to distance from the position of the partial image and generates a map data of the multi-level data.

8. A specified pattern detection apparatus comprising:

a first resolution converter which converts input image data to image data of first resolution;

a processor which performs a predetermined processing on the image data of first resolution obtained by said first resolution converter;

a second resolution converter which converts the image data of first resolution processed by said processor to image data of second resolution lower than the first resolution; and

a detector which detects a specified pattern based on the image data of second resolution.

9. The specified pattern detection apparatus

according to claim 8, further comprising a position calculator which calculates a position of a pattern in the image data of first resolution based on detection result of said second resolution converter.

10. The specified pattern detection apparatus according to claim 8, wherein said processor performs a predetermined filtering.

11. The specified pattern detection apparatus according to claim 10, wherein a filter used in the predetermined filtering is a first filter which detects a partial image included in a specified pattern in input image data, and bi-level data on the existence of the partial image is obtained by the filtering.

12. The specified pattern detection apparatus according to claim 11 further comprising a map generator which converts the bi-level data to multi-level data in correspondence to distance from a position of the partial image and generates map data of the multi-level data.

13. The specified pattern detection apparatus according to claim 1, further comprising a binarizer which binarizes the input image data to outputs bi-level image data.

14. A method for detecting a specified pattern comprising the steps of:

detecting a partial image included in a specified

pattern in input image data to generate bi-level data on the existence of a partial image;

storing the bi-level data in a memory device; and

detecting the specified pattern from the bi-level data stored in said memory device.

15. A method for detecting a specified pattern comprising the steps of:

converting input image data to image data of first resolution;

performing a predetermined processing on the obtained image data of first resolution;

converting the image data of first resolution to image data of second resolution lower than the first resolution; and

detecting a specified pattern based on the image data of second resolution.

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